



**ARMSTRONG  
POLICY  
DIRECTIVE**

Directive:  
Effective Date:  
Expiration Date:

**DPD-8040.1-001, Base-4, Revalidated**  
December 10, 2015  
December 10, 2020

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**Compliance is mandatory.**

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**SUBJECT: Configuration Management (Revalidated December 10, 2015)**

**RESPONSIBLE OFFICE: X/Chief Engineer**

**1. POLICY**

a. Configuration Management (CM) is the process of identifying and defining the configuration items in a system, recording and reporting the status of configuration items and Requests For Change, and verifying the completeness and correctness of configuration items. This process helps ensure that the Center products meet customer requirements, establishing and maintaining consistency between products and product requirements. Center organizations shall apply appropriate CM practices to ensure products and activities conform to customer requirements through configuration identification, control, status accounting, and audits.

b. The CM systems consist of the storage media, the processes and procedures, the tools used for accessing configuration information, and the documentation for recording and managing changes to a configuration. It is Center policy for organizations to establish and maintain the configurations of institutional and support systems, facilities, and project and activity work products, using documented CM systems.

**2. SCOPE AND APPLICABILITY**

a. The scope of this Armstrong Policy Directive (DPD) encompasses the CM processes for all projects including, but not limited to, applied research, advanced technology development, flight systems and ground support, and institutional systems. Listed below are the criteria for determining when a project must be managed under a CM system as defined in this directive:

(1) Projects that generate/maintain a product/process that affects the safety of people or possible loss of assets.

(2) Projects that generate/maintain a product/process that affects an institutional system (e.g., network infrastructure, electrical infrastructure, etc.) where changes may impact a service that is expected to be available without interruption.

(3) Projects that are developed/maintained through the collaboration of two or more organizations where changes to a product/process by one organization may impact another organization.

(4) If a project does not fall under one of the categories listed above (e.g., a project that impacts only one customer), the level of CM will be specified in a documented agreement between the project manager and the customer.

b. This DPD applies to the Armstrong Flight Research Center and onsite support contractors, grant recipients, and other partners to the extent specified in their contracts or agreements. This DPD applies to all Center projects\* that require a level of CM to maintain consistency between product requirements and products delivered to customers or that support customers.

\*The word "project" in the context of this document refers to work performed in programs, projects, management systems, and other activities.

### **3. AUTHORITY**

- a. NPR 7900.3 Aircraft Operations Management
- b. NPR 8820.2 Facility Project Requirements
- c. NPR 7120.5 NASA Program and Project Management Processes and Requirements

### **4. APPLICABLE DOCUMENTS**

None

### **5. RESPONSIBILITY**

Directors and Office Chiefs shall:

- a. Ensure that configuration management processes and procedures are developed, followed, measured for effectiveness, and continually improved.
- b. Ensure appropriate projects that meet the criteria for determining when a project must be managed under a CM system are identified.

Configuration Management Process Owners shall:

- a. Ensure that project work products, facilities, institutions, and support systems are managed and controlled using a configuration management system that meets the requirements established in this directive.
- b. Ensure that configuration management systems are managed and maintained.
- c. Ensure that configuration management systems have documented plans/procedures that establish requirements needed to ensure compliance with this policy directive.

Project Managers, Support System Managers, Facility Managers shall:

- a. Ensure that baselined project documents are maintained under configuration management.
- b. Ensure that the hierarchy of requirements and the resulting end-item specifications, including those for software, hardware, and operations, are maintained under configuration management and that modifications to requirements are documented as part of overall project configuration management mechanisms.
- c. Maintain configuration management on all drawings, design specifications, part selections, and other means of documenting aspects of the design.
- d. Ensure that final versions of design documentation shall reflect the "as-built", "as-delivered", or "as-deployed" configuration of the system/asset.

### **6. DELEGATION OF AUTHORITY**

None.

## **7. MEASUREMENTS**

a. Measurements associated with this directive are included and implemented in the procedures that document the various configuration management systems. In addition, nonconformances and/or observations obtained during audits relating to this directive will be used to determine ways to improve the various processes and if related to assess the effectiveness of this directive.

## **8. CANCELLATION**

DPD-8040.1-001-2, Dated October 20, 2010

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Original signed by Center Director

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## **ATTACHMENTS:**

**Attachment A. Definitions**

**Attachment B. Measurement Guidance**

**Attachment A. Definitions**

**Baseline.** A set of configuration items formally designated and fixed at a specific time during a configuration item (CI) life cycle. A baseline defines the state of a configuration at a specified time with the status and version/variant of each item. Baselines are frequently linked to the end of key project stages or new releases of products and may be frozen to provide a known reference point of configuration definition to which changes or proposed changes may be related.

**CM Process Owner.** An organization or office responsible for the creation and maintenance of a configuration management process

**Configuration.** The functional and/or physical characteristics of a product as set forth in the technical documentation and achieved in the product.

**Configuration Audit.** The process for determining to what extent the actual configuration reflects the required physical and functional characteristics.

**Configuration Control.** The process of requesting, evaluating, approving, or disapproving configuration changes.

**Configuration Identification.** The process of identifying, naming, describing and documenting physical and functional characteristics of systems, components of systems, documentation and data to be controlled for a project.

**Configuration Item (CI).** An aggregation of hardware, software, and/or documentation which satisfies and end use function.

**Configuration Status.** The actual configuration of a CI at a given time in relation to the baseline and all approved changes.

**Configuration Status Accounting.** The recording and reporting of the information that is needed to manage the configuration effectively, including a listing of the approved configuration identification, the status of proposed changes to the configuration, and the implementation status of approved changes.

**Support System Manager.** A manager of a system that is not directly related to the Center's core business of flight research, but the system provides the tools or infrastructure necessary to conduct core business. An Information Technology system is an example of a support system.

**Attachment B. Measurement Guidance**

The procedures that implement this directive should include at a minimum:

- (1) Analysis of casual factors resulting in a change to individual configuration items for the purpose of identifying potential high risk or problem areas
- (2) The number of changes that are overdue or extended
- (3) Analysis of the reasons changes are overdue or extended
- (4) Configuration management errors and discrepancies identified during configuration and management system audits

### **Document History Log**

This page is for informational purposes and does not have to be retained with the document.

#### **Baseline, 03/10/2006**

#### **Baseline-1, Admin Change, 07/23/2009**

- Added serial number to document name. Name changed from DPD-8040.1 to DPD-8040.1-001.

#### **Baseline-2, Admin Change, 08/02/2010**

- Formatted to comply with Agency standards.

#### **Revalidated, 10/20/2010**

- Revalidated